AUTROL® AMERICA
AUTOMATION CONTROL

ATT 2250

Smart Temperature Transmitter

For Differential / Gauge / Absolute Pressure Measurement

TEMPERATURE

Smart Temperature Transmitter

- **ATT2250** series

  - **Head Mount type installation**
  - **PT100, T/C, Universal Input**
  - **HART® Protocol**
  - **Sensor Burnout Detection available**
  - **ATEX Ex ia available**

- **INTRODUCTION**

  The ATT2250 series head mount type transmitter has the HART communications protocol which allows the user to quickly and easily download information or interrogate the device enabling the following:

- Simple rearranging of sensor type and range.
- Easy on site re-calibration.
- Operation with proprietary software packages such as AMS Plant Web™ and Cornerstone™.
- Remote configuration on the loop with HHT(Hand Held Communicator), or PC software.
- Online Digital communication concurrent with 4 to 20 mA Analogue signal.

The standard HART universal and common usage commands are implemented, with other device-specific commands that enable access to the enhanced performance parameters of the ATT2250 series.

- **ENHANCED FEATURES**

SENSOR REFERENCING
The ATT2250 sensor referencing via the Windows-based software allows for close matching to a known reference sensor eliminating possible sensor errors.

SENSOR BURN OUT DETECTION
If any sensor wire is broken or becomes disconnected the ATT2250 output will automatically go to its user defined level (upscale or downscale). This happens irrespectively of which wire is broken. Factory setting Burnout will be Upscale.

CUSTOM LINEARISATION
The [X]*¹ facility allows the SEM310 to be programmed with a custom linearization to suit non-standard sensors or sensors with unusual or unique characteristics. Consult the sales office for details.

USER CALIBRATION
In addition to sensor referencing, user offset and current output trimming is possible via the HART commands.

OUTPUT CURRENT PRESET
For ease of system calibration and commissioning the output can be set to a pre-defined level anywhere within the 4 to 20 mA range

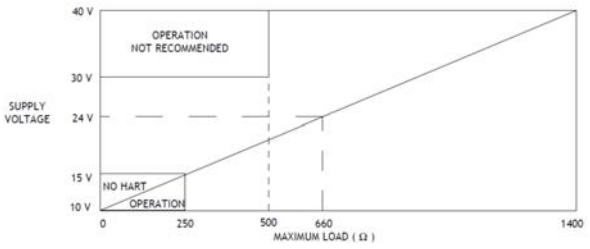
- **SPECIFICATIONS @20°C**

Input Types	Pt100, Thermocouple, mV
Time Constant (Filter off)	0.5 s (to 90 % of final value) Filter Factor Off/ selectable between 1 s and 32 s or Adaptive
Warm-up Time	120 s to full accuracy
Input/ Output Breakdown Isolation	500 VAC
Operating Range	(-40 to 85) °C
Storage Temperature	(-50 to 85) °C
Humidity Range	(0 to 95) % (non-condensing)

Approvals

EMC	BS EN61326,
ATEX	II1EExia IICT4-T6,
FM	FM3610-IS/I/1/ABCD/T4

OUTPUT



INPUT SENSORS & RANGES

Pt100 (RTD) 2, 3 or 4 Wire

Maximum Output Load	[(Vsupply-10)/21.5] KΩ, 250 Ω minimum loop load. Supply voltages over 30 V a minimum loop load of 500 Ω is necessary.
Burnout Levels	Low 3.75 mA, High 21.5 mA
Input Out of Range	Low 3.8 mA, High 20.5 mA
Output Range	(4 to 20) mA, Min. 3.75 mA, Maximum 21.5 mA
Accuracy	± 5 µA
Thermal Drift	1 µA/ °C
Supply Voltage	(10 to 40) VDC
Supply Voltage Effect	0.2 µA/ V
Sensor Range	(-200 to -850) °C (18 to 390) Ω
Minimum Span	25 °C
Linearization	BS EN 60751, BS 1904, DIN 43760, JIS1604, CUSTOM [X]*¹
Max Lead Resistance	50 Ω per leg(balanced for 3 wire)
Basic Measurement Accuracy*²	0.01 % FRI*³ ± 0.07 % rdg
Thermal Drift Zero	0.008 °C/°C
Thermal Drift Span	0.01 %/°C

THERMOCOUPLE

T/C Type	Range ºC	Min Span ºC
K	-200 to 1370	50
J	-200 to 1200	50
T	-210 to 400	25
R	-10 to 1760	100
S	-10 to 1760	100
E	-200 to 1000	50
L	-100 to 600	25
N	-180 to 1300	50
[X][3]	User defined	
Linearization	BS EN 60584-01, BS 4937, IEC 584-1	
Basic Measurement Accuracy*²	0.04 % FRI*³ ± 0.04 % rdg or 0.5 °C (whichever is greater)	
Cold Junction	± 0.5 °C tracking 0.05 °C/°C range (-40 to 85) °C	
Thermal Drift	Span	0.01 %/°C

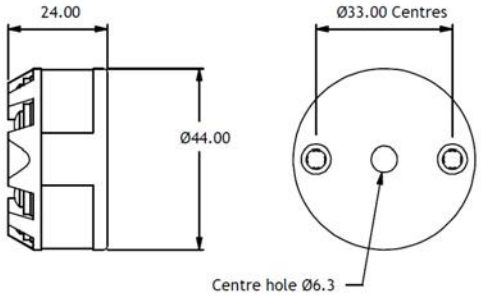
MILLIVOLTS

Input	Voltage source
Range	(-10 to 75) mV
Characterization	Linear, Custom [X]*¹
Minimum Span	5 mV
Basic Measurement Accuracy*²	±10µV ±0.07% rdg
Input	Impedance 10 MΩ
Thermal Drift Zero	0.1 µV/°C
Thermal Drift Span	0.01 %/°C

***Notes:**

1) Customer linearization is available pre-programmed at the factory, contact sales office for details.
2) Basic Measurement Accuracy includes the effects of calibration, linearization and repeatability.
3) FRI = Full Range Input

DIMENSION



MECHANICAL

Weight 43 g

ENCLOSURE

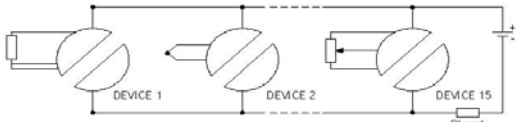
Material	ABS
Flammability	SEI UL94-V0

COMMUNICATING WITH HANDHELD COMMUNICATOR

The ATT2250 will communicate with any proprietary HART communicator and access to all universal commands is available from the communicator. In order to access all the parameters available, the communicator must have the correct HART Device Description (DD) installed.

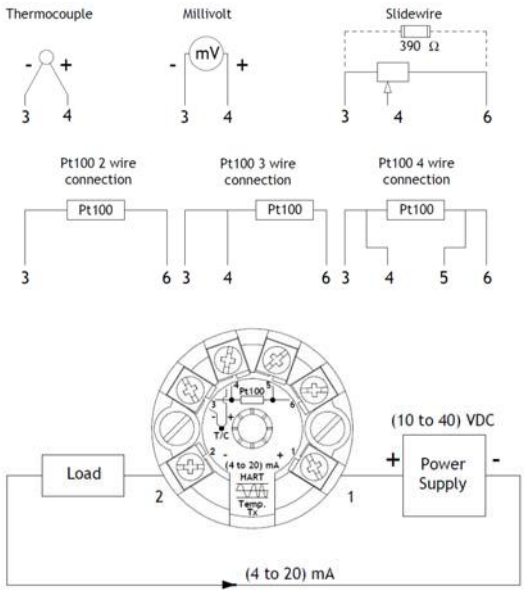
MULTI DROP HART

As well as operating in standard mode the SEM310 supports HART Multi - drop mode whereby up to 15 devices can be connected to the same pair of wires enabling full digital functionality with each device.

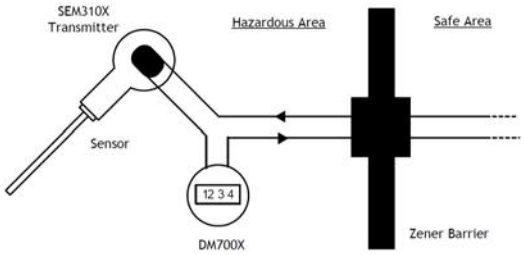


*In multi-drop mode the current output is set at 4 mA.

CONNECTIONS



HAZARDOUS AREA



ORDERING INFORMATION

Model	ATT2250	Head Mount type
	–	
Sensor setting type	A☐	2, 3, 4 (PT-100 Wire type)
	T☐	B, E, J, K, N, R, S, T (T/C type)
Ex	E2	Ex ia
Burnout	D	Downscale <,=3.75mA
	U	Upscale >,= 21.5mA
	–	
Option	X1	Description for Sensor & Thermo well

* Factory setting burn out will be Upscale

Ex) ATT2250- A3E2U (Pt-100, 3 wires, Ex ia type)

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